

processor 36 and then transport the resultant command signals generated by the processor 36 to a storage buffer, which holds the command signals before sending them to the relay control logic 44 of Fig. 1. The processor 36 received at an A/D input a water-temperature status signal from two thermistors (i.e., the temperature sensor 40, of Fig. 1). The processor 36 sends status data signals (including the status signals received at the A/D input) to the encoder 32, which as stated above sends a resultant status signal from the TXD output to the transceiver information elements 102, 104. Additionally, the processor 36 outputs a heat-enabled command signal. The processor 36 is powered by a regulator 110 (Fig. 3B).

Fig. 3B shows control logic for nine relays 50, 52, 54, 58, 64, 112, 114, 116, 118. The control logic is a configuration of digital gates that forces one or more conditions to be satisfied in order for each relay 50, 52, 54, 58, 64, 112, 114, 116, 118 to turn on. Also, an over-temp (i.e., emergency shutdown) signal from the safety hi-limit circuit 42 prevents any of the relays 50, 52, 54, 58, 64, 112, 114 from being on.

Thus, for the low pump (i.e., filter pump) relay 54 to turn on, a heating command from the processor 36 must be present and there must be neither a jets command nor an over-temp signal present. Alternatively, and also only if neither a jets command nor an over-temp signal is present, a pump-delay signal from the fireman's switch 46 ~~of Fig. 3E~~ will activate the filter pump relay 54. Finally, and again in the absence of both a jets command and an over-temp signal, the filter pump relay 54 can also be turned on manually from the remote time clock.

The high pump (i.e., jets) relay 52 turns on in the absence of an over-temp signal when a jets command is received from the processor 36. Likewise, the blower (i.e., aux 1) relay 58 turns on in the absence of an over-temp signal when an aux-1 command is received from the processor 36. The ozonator relay 64 turns on only if either the pump filter relay 54 or the jets relay 52 is